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Yoshitsugu Morita

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REED SMITH, LLP

ATTN: PATENT RECORDS DEPARTMENT

599 LEXINGTON AVENUE, 29TH FLOOR

NEW YORK, NY 10022-7650

EXAMINER

FIDLER, SHELBY LEE

ART UNIT

PAPER NUMBER

2861

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of 1-24 in the reply filed on 6/2/06 is acknowledged.

Claims 25-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/2/06.

Claim Objections

Claim 12 is objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Lines 8-11 recite "from longitudinal opposite ends of the elongate cutout to one and the other of opposite side surfaces," which is unclear in the context of the claim. For the purpose of this rejection, Examiner assumes that this limitation can be read as extending longitudinally from one end of the cutout to the other end of the cutout.

Claim 19 recites the limitation "the hollow cylindrical portion" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 14, 16-19, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) in view of Olsen et al. (US 6158853).

Wilson et al. teach the following:

***regarding claim 1, an ink package comprising:**

an ink accommodating bag (collapsible ink reservoir 114, Fig. 10) in which ink is accommodated and which is formed of a first flexible sheet (col. 4, lines 20-22);

an outer bag (outer container 1102, Fig. 10) which encloses the ink accommodating bag such that a space (unoccupied portion 1103b) is defined by and between the ink accommodating bag and the outer bag (col. 4, lines 36-39 and Fig. 10); and

an ink delivering member (chassis 1120, Fig. 8) including a fixing portion (fixing portion B, Drawing A below) to which the outer bag is fixed at an opening thereof (Fig. 10) and an extending portion (extending portion C, Drawing A) which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion (Fig. 10) and to which the ink accommodating bag is fixed at an opening thereof (col. 4, lines 3-10 and Fig. 10);

and wherein the ink delivering member further includes an ink outlet passage (ink outlet port 1110, Fig. 10) through which the ink in the ink accommodating bag is delivered to an exterior of the ink package (col. 4, lines 44-49) and a communication passage (fluid conveying conduit) through which the space is held in communication with the exterior of the ink package (col. 4, lines 40-44)

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***regarding claim 4**, the fixing portion has a cross sectional area larger than a cross sectional area of the extending portion, where the cross sectional areas of the fixing portion and the extending portion are taken along respective planes perpendicular to the first direction of the fixing portion (e.g. Figs. 10 and 13)

***regarding claim 5**, the fixing portion has a circular shape in cross section taken along a plane perpendicular to the first direction of the fixing portion (e.g. Figs. 10 and 13)

***regarding claim 6**, the outer bag includes a pair of walls which are opposed to each other in a second direction perpendicular to the first direction of the fixing portion (left and right-hand side walls of outer container 1102 oppose each other, Fig. 10)

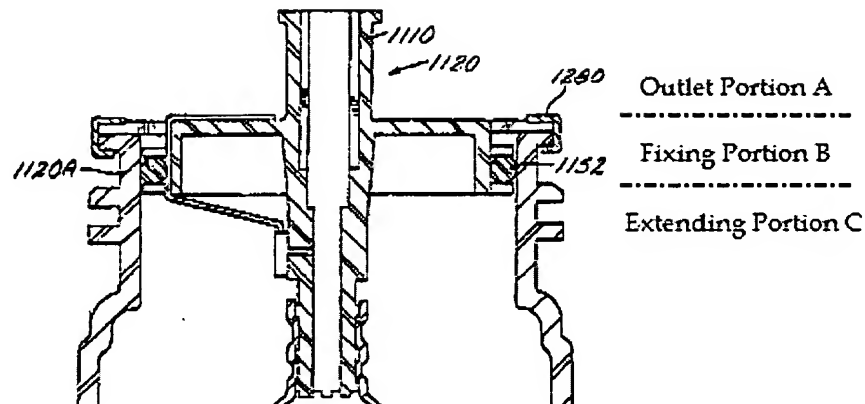
***regarding claim 14**, the communication passage is formed on both of opposite sides of a plane of the fixing portion so as to extend in series (fluid conveying conduit communicates with air inlet 1108 on one side of the chassis 1120, and unoccupied space 1103b on the other side of the chassis 1120, Fig. 1 and col. 4, lines 40-44), the plane including a connected surface at which the pair of walls of the outer bag are connected (outer container 1102 walls connect to a surface of chassis 1120 with crimp ring 1280, Fig. 10)

***regarding claim 18**, the ink delivering member further includes a hollow protruding portion (air inlet 1108) which protrudes from the fixing portion so as to extend in a direction away from the outer bag (Fig. 9) and which has an inner passage formed therethrough (obvious to the air inlet 1108 described in col. 4, lines 40-44), the communication passage, which is formed on the fixing portion, communicating at one of opposite ends thereof with the space and at the other of the opposite ends with the inner passage of the hollow protruding portion (col. 4, lines 40-44)

***regarding claim 19**, the fixing portion has a connecting passage (fluid conveying conduit) which connects the other of the opposite ends of the communication passage and one of opposite ends of the inner passage of the hollow cylindrical portion (col. 4, lines 40-44) which is located on the side nearer to the fixing portion (Figs. 1, 9, and 10)

***regarding claim 21**, the ink delivering member further includes a cylindrical portion (output port 1110) which is formed adjacent to the fixing portion so as to extend therefrom in the direction away from the outer bag (Fig. 9), the ink outlet passage being formed through the cylindrical portion, the fixing portion, and the extending portion (col. 4, lines 44-51 and Fig. 10), one of opposite openings of the cylindrical portion which is remote from the fixing portion and one of opposite ends of the hollow protruding portion which is remote from the fixing portion being located on the same plane (Fig. 9)

***regarding claim 22**, the ink package is removably mounted on a main portion of an inkjet recording apparatus (col. 2, lines 57-60) which includes an inkjet printing head (col. 2, lines 46-48), an ink supply passage for supplying the ink delivered from the ink package to the inkjet printing head (col. 2, line 67 – col. 3, line 3 and Fig. 1), a positive pressure generating source (air pressure source 70, Fig. 1) for generating positively pressurized air (col. 2, lines 63-65), and a positively pressurized air delivering passage through which the positively pressurized air generated by the positive pressure generating source is delivered (col. 2, lines 63-66 and Fig. 1), the ink package being constructed to be removably mounted on the main portion such that the ink outlet passage of the ink package is connected to the ink supply passage of the main portion while the communication passage of the ink package is connected to the positively pressurized air delivering passage (col. 2, line 57 – col. 3, line 3 and Fig. 1)



Drawing A: Figure 10, from Wilson et al. '638, edited for clarification

Wilson et al. do not expressly teach the following:

***regarding claim 1**, the outer bag is formed of a flexible sheet

***regarding claim 16**, each of the first and second flexible sheets is provided by a material which substantially inhibits gases or vapors from permeating therethrough

***regarding claim 17**, the ink delivering member has a rigidity higher than the first and second flexible sheets

Olsen et al. teach the following:

***regarding claim 1**, the outer bag (outer bag 146, Fig. 4) is formed of a flexible sheet (col. 2, lines 7-8)

***regarding claim 16**, each of the first and second flexible sheets is provided by a material which substantially inhibits gases or vapors from permeating therethrough (fluid-impervious and air-impervious materials, col. 4, lines 17-25)

***regarding claim 17**, the ink delivering member has a rigidity higher than the first and second flexible sheets (col. 3, lines 30-32 and col. 4, lines 51-66, col. 5, lines 3-24)

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At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize an outer bag made of a flexible sheet in Wilson et al.'s invention. The motivation for doing so, as taught by Olsen et al., is to provide a moisture and air barrier, and to protect the inner bag (col. 5, lines 3-9).

Claims 2, 3, 9-11, 13, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) as modified by Olsen et al. (US 6158853), as applied to claim 1 above, and further in view of Dowell et al. (US 6508545 B2).

Wilson et al. as modified by Olsen et al. teach the following:

***regarding claim 2**, the communication passage is formed at least in a state in which the outer bag is fixed to the fixing portion (Fig. 10), the fixing portion having at least one seal portion (O-ring 1152) formed on an outer surface thereof that continuously extends throughout a periphery of the fixing portion (Fig. 10 of Wilson et al.)

***regarding claim 13**, the plane of a fixing portion including a connected surface at which the pair of walls of the outer bag are connected (outer container 1102 walls connect to a surface of chassis 1120 with crimp ring 1280, Fig. 10 of Wilson et al.)

***regarding claim 20**, the connecting passage includes a first portion which extends in the first direction of the fixing portion (obvious to the invention, since the fluid conveying conduit is the only path communicating with unoccupied portion 1103b, as per col. 4, lines 40-44, and since the air inlet 1108 is located upstream from the unoccupied portion 1103b in the first direction, as in Figs. 1 and 9 of Wilson et al.)

Wilson et al. as modified by Olsen et al. does not expressly teach the following:

***regarding claim 2**, the communication passage includes at least a portion which extends in a direction that intersects the first direction of the fixing portion

***regarding claim 3**, the ink delivering member has at least one elongate groove which is formed in the outer surface of the fixing portion and which includes at least a portion extending in the direction that intersects the first direction, the elongate groove forming at least a portion of the communication passage in the state in which the outer bag is fixed to the outer surface of the fixing portion

***regarding claim 9**, the communication passage is in the form of a labyrinth having at least one bent portion

***regarding claim 10**, the communication passage in the form of a labyrinth includes at least two elongate grooves which extend in a direction that intersects the first direction of the fixing portion substantially at a right angle and which are connected at corresponding ones of opposite longitudinal end portions thereof by a connecting groove

***regarding claim 11**, the communication passage in the form of the labyrinth includes at least three elongate grooves which extend in a direction intersecting the first direction of the fixing portion substantially at a right angle, a second one of the at least three grooves being connected by a first connecting groove, at one of longitudinal opposite end portions thereof to a corresponding longitudinal end portion of a first one of the at least three grooves while the second one of the at least three grooves is connected by a second connecting groove, at the other of the longitudinal opposite end portions thereof to a corresponding longitudinal end portion of a third one of the at least three grooves

***regarding claim 13**, the communication passage is formed on one of opposite sides of a plane of the fixing portion

***regarding claim 20**, the connecting passage includes a second portion which extends from the first portion in a direction intersecting the first direction

Dowell et al. teach the following:

***regarding claim 2**, the communication passage includes at least a portion which extends in a direction that intersects the first direction of the fixing portion (col. 5, lines 31-35 and labyrinth 46 of Fig. 6)

***regarding claim 3**, the ink delivering member (fluid interconnect plate 34) has at least one elongate groove (element A, Drawing B below) which is formed in the outer surface of the fixing portion (Fig. 6) and which includes at least a portion extending in the direction that intersects the first direction (Fig. 6), the elongate groove forming at least a portion of the communication passage (col. 5, lines 31-35) in the state in which the outer bag is fixed to the outer surface of the fixing portion

***regarding claim 9**, the communication passage is in the form of a labyrinth having at least one bent portion (Fig. 6)

***regarding claim 10**, the communication passage in the form of a labyrinth includes at least two elongate grooves (e.g. elements A, C, E, and G of Drawing B) which extend in a direction that intersects the first direction of the fixing portion substantially at a right angle (Fig. 6) and which are connected at corresponding ones of opposite longitudinal end portions thereof by a connecting groove (e.g. element A connected at end portion to connecting groove B, Drawing B)

***regarding claim 11**, the communication passage in the form of the labyrinth includes at least three elongate grooves which extend in a direction intersecting the first direction of the fixing portion substantially at a right angle (e.g. elements A, C, E, and G of Drawing B), a

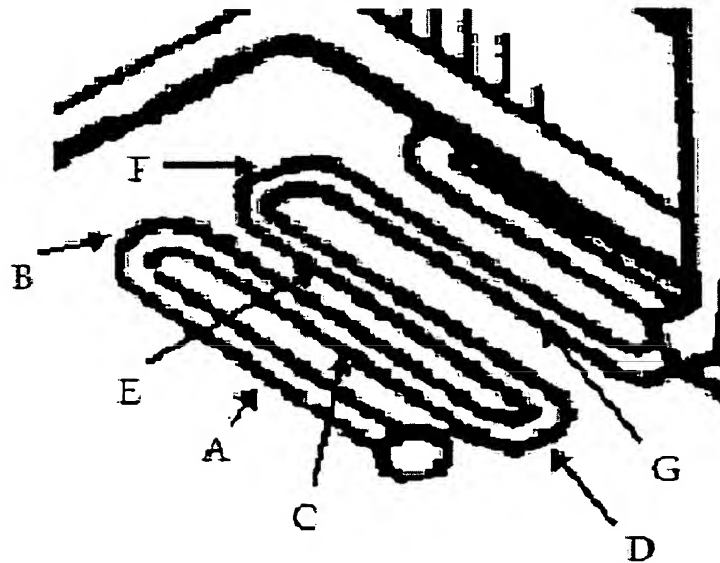
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second one of the at least three grooves (e.g. element C, Drawing B) being connected by a first connecting groove (element B), at one of longitudinal opposite end portions thereof (Drawing B) to a corresponding longitudinal end portion of a first one of the at least three grooves (element A) while the second one of the at least three grooves is connected by a second connecting groove (element D), at the other of the longitudinal opposite end portions thereof to a corresponding longitudinal end portion of a third one of the at least three grooves (element E, Drawing B)

***regarding claim 13**, the communication passage is formed on one of opposite sides of a plane of the fixing portion (formed on the underside of the plane of fluid interconnect plate 34, Fig. 6)

***regarding claim 20**, the connecting passage includes a second portion (labyrinth 46) which extends from the first portion in a direction intersecting the first direction (Figs. 5 and 6)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a communication passage with a portion that extends in multiple directions into the invention of Wilson et al. modified by Olsen et al. The motivation for doing so, as taught by Dowell et al., is to limit the loss of water vapor (col. 5, lines 33-35).



Drawing B: Figure 6 from Dowell et al. '545, edited for clarification

Claims 7, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) as modified by Olsen et al. (US 6158853), as applied to claim 6 above, and further in view of Perkins et al. (US 6715864 B2).

Wilson et al. as modified by Olsen et al. teach the following:

***regarding claim 7**, the fixing portion has a first dimension as measured in the first direction (obvious to chassis 1120), a second dimension as measured in the second direction (obvious to chassis 1120), and a third dimension as measured in the third direction which is perpendicular to the first direction and the second direction (obvious to chassis 1120 of Wilson et al.)

Wilson et al. as modified by Olsen et al. do not expressly teach the following:

***regarding claim 7**, the third dimension being larger than the first dimension and the second dimension

***regarding claim 8**, the second dimension of the fixing portion gradually decreases toward opposite ends thereof in the third direction (Fig. 2)

Perkins et al. teach the following:

***regarding claim 7**, a fixing portion (fitting 18, Figs 2 and 3) wherein the third dimension being larger than the first dimension and the second dimension (Fig. 2)

***regarding claim 12**, the fixing portion includes a plurality of elongate ribs formed on the outer surface thereof (ribs 28, Fig. 2) and at least one groove (the section between ribs 28, Fig. 2), each of which is located between adjacent two of the plurality of elongate ribs (Fig. 2), at least one of the plurality of elongate ribs being formed with an elongate cutout such that the elongate cutout extends in a longitudinal direction of the at least one of the plurality of elongate ribs (Fig. 2), and with two grooves extending from longitudinal opposite ends of the elongate cutout to one and the other of opposite side surfaces of the at least one of the plurality of elongate ribs, respectively (ribs 28, and thus the section between ribs 28, extend across the length of the fitting 18, Fig. 2)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize Perkins et al.'s fixing portion in the invention of Wilson et al. as modified by Olsen et al. The motivation for doing so, as taught by Perkins et al., is to provide a leak-proof seal between the bag and the fitting (col. 2, lines 36-40).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) as modified by Olsen et al. (US 6158853) and Dowell et al. (US 6508545 B2), as applied to claim 9 above, and further in view of Perkins et al. (US 6715864 B2).

Wilson et al. as modified by Olsen et al. and Dowell et al. do not expressly teach the following:

***regarding claim 12**, the fixing portion includes a plurality of elongate ribs formed on the outer surface thereof and at least one groove, each of which is located between adjacent two of the plurality of elongate ribs, at least one of the plurality of elongate ribs being formed with an elongate cutout such that the elongate cutout extends in a longitudinal direction of the at least one of the plurality of elongate ribs, and with two grooves extending from longitudinal opposite ends of the elongate cutout to one and the other of opposite side surfaces of the at least one of the plurality of elongate ribs, respectively

Perkins et al. teach the following:

***regarding claim 12**, the fixing portion includes a plurality of elongate ribs formed on the outer surface thereof (ribs 28, Fig. 2) and at least one groove (the section between ribs 28, Fig. 2), each of which is located between adjacent two of the plurality of elongate ribs (Fig. 2), at least one of the plurality of elongate ribs being formed with an elongate cutout such that the elongate cutout extends in a longitudinal direction of the at least one of the plurality of elongate ribs (Fig. 2), and with two grooves extending from longitudinal opposite ends of the elongate cutout to one and the other of opposite side surfaces of the at least one of the plurality of elongate ribs, respectively (ribs 28 extend across the length of the fitting 18, Fig. 2)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize Perkins et al.'s fixing portion in the invention of Wilson et al. as modified by Olsen et al. and Dowell et al. The motivation for doing so, as taught by Perkins et al., is to provide a leak-proof seal between the bag and the fitting (col. 2, lines 36-40).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) as modified by Olsen et al. (US 6158853), as applied to claim 1 above, and further in view of Presnick (US 3730240).

Wilson et al. as modified by Olsen et al. does not expressly teach the following:

***regarding claim 15**, the space is in a state upon shipment of the ink package, in which the space is evacuated to a reduced pressure, the ink package further comprising a sealing member which is removably provided so as to close the communication passage

Presnick teaches the following:

***regarding claim 15**, the space is in a state upon shipment of the ink package, in which the space is evacuated to a reduced pressure (col. 2, lines 35-38), the ink package further comprising a sealing member (stopper member 15', Fig. 1) which is removably provided so as to close the communication passage (col. 2, lines 41-44)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to evacuate the space to a reduced pressure upon shipment in the invention of Wilson et al. as modified by Olsen et al. The motivation for doing so, as taught by Presnick, is to utilize the insulating characteristics of dead air spaces (col. 1, lines 12-16).

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (US 6435638 B1) in view of Olsen et al. (US 6158853) and Presnick (US 3730240).

Wilson et al. teach the following:

***regarding claim 23**, an ink package comprising:
an ink accommodating bag (collapsible ink reservoir 114, Fig. 10) in which ink is accommodated and which is formed of a first flexible sheet (col. 4, lines 20-22);

an outer bag (outer container 1102, Fig. 10) which encloses the ink accommodating bag such that a space (unoccupied portion 1103b) is defined by and between the ink accommodating bag and the outer bag (col. 4, lines 36-39 and Fig. 10); and

an ink delivering member (chassis 1120, Fig. 8) including a fixing portion (fixing portion B, Drawing A below) to which the outer bag is fixed at an opening thereof (Fig. 10) and an extending portion (extending portion C, Drawing A) which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion (Fig. 10) and to which the ink accommodating bag is fixed at an opening thereof (col. 4, lines 3-10 and Fig. 10);

and wherein the ink delivering member further includes an ink outlet passage (ink outlet port 1110, Fig. 10) through which the ink in the ink accommodating bag is delivered to an exterior of the ink package (col. 4, lines 44-49)

Wilson et al. do not expressly teach the following:

***regarding claim 23**, the outer bag is formed of a flexible sheet; and

the space is in a state, upon shipment of the ink package, in which the space is evacuated to a reduced pressure

***regarding claim 24**, the ink delivering member has a rigidity higher than the first and second flexible sheets

Olsen et al. teach the following:

***regarding claim 23**, the outer bag (outer bag 146, Fig. 4) is formed of a flexible sheet (col. 2, lines 7-8)

***regarding claim 24**, the ink delivering member has a rigidity higher than the first and second flexible sheets (col. 3, lines 30-32 and col. 4, lines 51-66, col. 5, lines 3-24)

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Presnick teaches the following:

***regarding claim 23**, the space is in a state, upon shipment of the ink package, in which the space is evacuated to a reduced pressure (col. 2, lines 35-38)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize an outer bag formed of a flexible sheet into Wilson et al.'s invention. The motivation for doing so, as taught by Olsen et al., is to provide a moisture and air barrier, and to protect the inner bag (col. 5, lines 3-9). It would have been further obvious to evacuate the space to a reduced pressure upon shipment of the ink package in Wilson et al.'s invention. The motivation for doing so, as taught by Presnick, is to utilize the insulating characteristics of dead air spaces (col. 1, lines 12-16).

Communication with the USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelby Fidler whose telephone number is (571) 272-8455. The examiner can normally be reached on MWF 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SLF

R. Figgins 6/26/06
K. FEGGINS
PRIMARY EXAMINER